of SEQ ID NO:1, an amino acid sequence represented by amino acids 1-687 of SEQ ID NO:1, an amino acid sequence represented by amino acids 1-583 of SEQ ID NO:1, an amino acid sequence represented by amino acids 213-950 of SEQ ID NO:1, an amino acid sequence represented by amino acids 213-687 of SEQ ID NO:1, an amino acid sequence represented by amino acids 213-583 of SEQ ID NO:1, and an equivalent of said metalloprotease, wherein said metalloprotease has aggrecanase activity.

4. (Amended) An isolated polynucleotide which encodes a metalloprotease having aggrecanase activity of any one of claims 1 to 3, or an equivalent of said metalloprotease.

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5. (Amended) A cloning or expression vector comprising a polynucleotide of claim 4.

6. (Amended) A host cell transformed with the vector of claim 5.

7. (Amended) A method for producing a metalloprotease having aggrecanase activity and comprising an amino acid sequence represented by amino acids 213-583 of SEQ ID NO:1, or an equivalent of said metalloprotease, comprising a) culturing the host cell of claim 6 under conditions such that said host cell expresses said metalloprotease or said equivalent, and (b) recovering the metalloprotease or the equivalent so expressed.

8. (Amended) An antibody having binding specificity for the metalloprotease having aggrecanase activity of any one of claims 1 to 3, or an equivalent of said metalloprotease.

9. (Amended) A method of identifying a compound capable of inhibiting aggrecanase activity of a metalloprotease, comprising:

a) contacting the metalloprotease having aggrecanase activity of any one of claims 1 to 3, or an equivalent of said metalloprotease, with a test compound,

b) assaying for aggrecanase activity of the resulting contacted metalloprotease of step (a),

c) comparing results from the assay of step (b) with results of an assay performed using an identical metalloprotease that has not been contacted with the test compound, and

d) determining whether the test compound inhibits aggrecanase activity of the metalloprotease, thereby identifying a compound capable of inhibiting aggrecanase activity of a metalloprotease.

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10. (Amended) A pharmaceutical composition for inhibiting degradation of proteoglycans, comprising (a) a compound capable of inhibiting a metalloprotease, wherein said compound is obtained by the method of claim 9, and (b) a pharmaceutically acceptable carrier or diluent.

11. (Amended) An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of SEQ ID NO:24, 25, 26, 27, 28, 29, 30 and 31, or an equivalent of said polynucleotide.

Please add the following new claims:

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12. A method for producing a metalloprotease having aggrecanase activity and comprising an amino acid sequence represented by amino acids 1-583 of SEQ ID NO:1, or an equivalent of said metalloprotease, comprising a) culturing the host cell of claim 6 under conditions such that said host cell expresses said metalloprotease or said equivalent, and (b) recovering the metalloprotease or the equivalent so expressed.

13. A method for producing a metalloprotease having aggrecanase activity and comprising an amino acid sequence selected from the group consisting of an amino acid

sequence represented by amino acids 1-950 of SEQ ID NO:1, an amino acid sequence represented by amino acids 1-687 of SEQ ID NO:1, an amino acid sequence represented by amino acids 1-583 of SEQ ID NO:1, an amino acid sequence represented by amino acids 213-950 of SEQ ID NO:1, an amino acid sequence represented by amino acids 213-687 of SEQ ID NO:1, an amino acid sequence represented by amino acids 213-583 of SEQ ID NO:1 and an equivalent of said metalloprotease, comprising a) culturing the host cell of claim 6 under conditions such that said host cell expresses said metalloprotease or said equivalent, and (b) recovering the metalloprotease or the equivalent so expressed.

A2

14. A method of treating a joint disease, comprising administering to a patient in need of treatment a compound obtainable by the method of claim 9, thereby treating a joint disease.